

Abstract

A method of making a diffusion barrier for an interconnect structure. The method comprises: providing a conductive line in a bottom dielectric trench; depositing a sacrificial liner on the cap layer; depositing an interlayer dielectric; forming a trench and a via in the top interlayer dielectric; and removing a portion of the cap layer and the sacrificial layer proximate to the bottom surface of the via. The removed portions of the cap layer and sacrificial layer deposit predominantly along the lower sidewalls of the via. The conductive line is in contact with a cap layer, and the sacrificial layer is in contact with the cap layer. The invention is also directed to the interconnect structures resulting from the inventive process.

CB:\303439